

Peer-review report of

Haslbeck, J., & Epskamp, S. (2024). Observed correlations between person-means depend on within-person correlations. *advances.in/psychology*, 2, e853425.

<https://doi.org/10.56296/aip00020>

Round 1

Dear Authors,

Upon careful consideration of your paper and the feedback we received from one of the reviewers, I would like to welcome you to address the minor edits suggested in the review.

In summary, the reviewer has provided a comprehensive assessment of the manuscript, offering various suggestions for improvement across different sections. They recommend defining "Nickel's bias" for readers unfamiliar with time series modeling and inquire about the handling of stationarity in VAR models within the realm of psychology. Additionally, the reviewer suggests including an application of mlVAR and discussing the simulation results within the context of a practical example, aiming to assist applied researchers in understanding the significance of the findings.

Overall, the reviewer acknowledges the clarity and conciseness of the paper, highlighting its relevance to the field.

I agree with all the points raised by the reviewer and request the authors to address them accordingly. It is particularly important to emphasize the inclusion of a practical example.

Thank you for your attention to these suggestions, and I look forward to seeing the revisions.

Best wishes,

Hudson Golino

Reviewer 1

Review Statement

As a reviewer, I am knowledgeable of time series modeling and have some experience with multilevel modeling but am by no means an expert. Based on my experience and the content of the manuscript, my review aims to be comprehensive and attempts to increase the impact of the present manuscript.

My review is ordered by section as they appear in the manuscript. My comments are

labeled Edit, Minor, and Major for what I see as revisions to the manuscript. The editor, other reviewers, and authors may disagree.

Review

Minor: The authors' mention "Nickel's bias" at the end of the first page. For readers less familiar with time series modeling, which I suspect would be many readers of the article, the bias should be defined (a simple definition in parentheses or another sentence).

Minor: I might have missed in this paper (as well as others) how stationary is commonly handled in VAR models in psychology. I understand that within-person centering demeans the data but it does not necessarily mean detrend or make the time series stationary. I've wondered why in the literature some form of transforming the data to be stationary, either through differencing or vector error correction, hasn't been applied (and if it has, then I might have missed it all this time). Can the authors speak to stationary, whether psychological data are expected to be stationary, and if there consequences of non-stationary for the current manuscript as this process is an assumption of VAR models?

Minor: I would encourage the authors to include an application of mIVAR and discuss directly the results of the simulation in the context of a single example. I believe that applied researchers working on intensive longitudinal data will walk away thinking, "This bias on the between-person means correlation(s) sounds important but I'm not sure what to do with it." The example could be simulated or empirical but something that applied researchers can walk away feeling like they have a procedure to understand how much bias might exist in this between-person correlation parameter.

All-in-all, I read the paper with great interest as it clearly and concisely demonstrates a relevant and pertinent problem.

Signed,

Alexander Christensen

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Reviewer 2:

The present manuscript is a tidy and fascinating treatment of the relationship between between-person covariances of means (ala, how are the mean levels of variables covary in a population of individuals) and the within-person temporal relations. I think this paper is well presented, with both simulation studies and analytic derivations to demonstrate the issue. I've got two comments/suggestions:

1. I'd love to see a bit more of a discussion of the actual implications of this work. Looking at the results, I'm seeing the bias only really occurring at small variances of the between person means and large beta coefficients (the 0 sd between person mean conditions notwithstanding). Would this be realistic to see in empirical data? Talking more on under what conditions should we be concerned about this would be helpful, and putting some hard numbers on it (which brings me to my second point).

2. In these sorts of generating processes, the marginal variance is a function of the temporal relations and the contemporaneous relations, not to mention the relation between means. This makes contextualizing the effects relative to the values of the generating parameters difficult. For example, fixing the innovation variance at 1 and increasing Beta leads to increasing marginal variance. This is a fairly nitpicky technical point, but I think the presentation of simulation studies would be better served if the authors take the beta coefficients and express them in terms of proportion of marginal variance explained.

Beyond those comments, I think that this paper reads very well and shows an interesting effect!